

Appendix A

Summary of Data Collection and Report Methodology

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The 2009 data for the *Natural Gas Annual* are taken primarily from Form EIA-176, “Annual Report of Natural and Supplemental Gas Supply and Disposition,” and Form EIA-895, “Annual Quantity and Value of Natural Gas Report.” Each of these surveys and all other sources of data for this report are discussed separately in the following sections.

Form EIA-176

Survey Design

The original version of Form EIA-176 was approved in 1980 with a mandatory response requirement. Prior to 1980, published data were based on voluntary responses to Bureau of Mines, U.S. Department of the Interior predecessor Forms BOM-6-1340-A and BOM-6-1341-A of the same title.

The Form EIA-176 is a five-page form consisting of seven parts. Part 1 of the form contains identifying information including the company identification number, the company name and address, the State for which the report is filed, and address correction information. Part 2 contains information on reporting requirements, while Part 3 asks for the type of operations the company conducts. The body of the form (Parts 4-7) is a multi-line schedule for reporting all supplies of natural gas and supplemental gaseous fuels and their disposition within the State indicated. Respondents filed completed forms with the EIA in Washington, D.C. Data for the year 2009 were due March 1, 2010.

A copy of the Form EIA-176 and instructions is available at:

http://www.eia.doe.gov/oil_gas/natural_gas/survey_forms/nat_survey_forms.html

Data reported on this form are not considered proprietary.

In January 2010, forms for report year 2009 were mailed to all identified interstate natural gas pipeline companies; intrastate natural gas pipeline companies; investor and municipally owned natural gas distributors; underground natural gas storage operators; synthetic natural gas plant operators; field, well, or processing plant operators that delivered natural gas directly to consumers (including their own industrial facilities) other than for lease or plant use or processing; field, well, or processing-plant operators that

transported gas to, across, or from a State border through field or gathering facilities; and liquefied natural gas (LNG) storage operators. Detailed instructions for completing the form were included in each survey package.

Completed forms were returned to the EIA, where each was checked for errors, corrected as necessary, and processed into computer-generated State and National data summaries.

Response Statistics

Each company and its parent company or subsidiaries were required to file for each State in which their operations met the EIA-176 survey criteria. The original mailing totaled 2001 questionnaire packages. To the original mailing list, 92 names were added and 25 were deleted as a result of the survey processing. Additions were identified from a special frames update process and by way of comparisons to additional natural gas industry survey mailing lists. Deletions resulted from post office returns and other research that identified companies that were out of business, sold, or out of the scope of the survey. After all updates, the 2009 survey universe consisted of 2,068 active respondents.

Following the original mailing, a second request mailing, and nonrespondent follow-up, there were 49 nonrespondents.

Summary of Form EIA-176 Data Reporting Requirements

Computer edit programs verify the report year, State code, and arithmetic totals. Further tests were made to ensure that all necessary data elements were present and that the data were reasonable and internally consistent. The computerized edit system produced error listings with messages for each failed edit test. To resolve problems, respondents were contacted and required to file amended forms with corrected data where necessary.

Comparison of the Form EIA-176 with Other Data Sources

Comparison of the EIA-176 data with data from similar series is another method of ensuring the validity of the data published in this report. When these comparisons on a

company-by-company basis showed significant differences, respondents were required to reconcile the data.

Data on imports and exports of natural gas, as collected by the EIA-176 survey, were checked by comparing individual responses with quarterly data reports, "Natural Gas Imports and Exports," filed with the Office of Fossil Energy, U.S. Department of Energy. These quarterly reports are required as a condition of import/export authorizations. Where discrepancies were noted, respondents were required to file corrected reports.

Similarly, data on the underground storage of natural gas were compared with submissions of Form EIA-191M, "Monthly Underground Gas Storage Report," and Form EIA-191A, "Annual Underground Gas Storage Report." If significant differences were noted, companies were contacted to reconcile the discrepancies.

Data on deliveries to residential, commercial, and industrial consumers were compared with data submitted on Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers." Where discrepancies were noted, respondents were required to file corrected reports, sometimes for both surveys. Numerous contacts were made to clarify any misunderstandings concerning the correct filing of data. Typical errors included electric power volumes combined with industrial volumes, sales for resale volumes reported as industrial consumption, and misinterpretation of general instructions.

Pipeline flows were also compared to pipeline capacity information filed at the Federal Energy Regulatory Commission. Flow volumes in excess of pipeline capacity required research and, in some cases, respondents were required to file corrected reports.

Cautionary Note: Number of Residential and Commercial Consumers

There may be some double counting in the number of residential and commercial consumers reported for the years presented in this report, 2005 through 2009.

EIA collects data on the number of residential and commercial consumers through a survey of companies that deliver gas to consumers (Form EIA-176). The survey asks companies for the number of customers served as sales customers as well as customers to whom they deliver gas purchased from others. Traditionally, residential and commercial customers obtained the gas and all services associated with delivering it from their local distribution company (LDC). The LDC records these customers as sales customers. Customer choice programs allow consumers to select the provider from whom they purchase gas. When customers elect to purchase gas from a provider other than the LDC, the LDC continues to deliver the gas to the household even though it no longer sells the gas. When customers switch to another provider, they become

transportation service customers for the LDC. A residential customer who enters a customer choice program during a year may be classified both as a traditional sales customer and, after entering the customer choice program, as a transportation service customer. In addition, some residential and commercial consumers may switch from transportation to sales service, for instance, when a choice pilot program ends. The potential double reporting affects the number of consumers shown in the *Natural Gas Annual*.

Tables 19-20 assist readers in evaluating the extent and possible effect of double reporting. Tables 19-20 list the number of sales and transportation customers, for residential and commercial consumers, respectively, reported on Form EIA-176 for 2008 and 2009. Appendix A provides a link to the survey Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition," on the EIA web site. Numbers of residential customers are reported on this form for both sales (in Part 6, lines 10.1) and transportation (in Part 6, line 11.1). Numbers of commercial customers are reported on this form for both sales (in Part 6, line 10.2) and transportation (in Part 6, line 11.2).

Customer choice programs, also known as retail unbundling programs, were implemented starting in the late 1990s. A description of these programs for States offering customer choice is on the EIA web site at:

http://www.eia.doe.gov/oil_gas/natural_gas/restructure/restructure.html

Form EIA-895

Survey Design

Beginning with 1980 data, natural gas production data previously obtained on an informal basis from appropriate State agencies were collected on Form EIA-627. This form was designed by the EIA to collect annual natural gas production data from the appropriate State agencies under a standard data reporting system within the limits imposed by the diversity of data collection systems of the various producing States.

In 1996, the Form was redesigned and assigned a new number. The new voluntary Form EIA-895 included both a Monthly and an Annual Schedule for quantity and value of natural gas production. The Monthly Schedule was discontinued in 2008. The Annual Schedule is requested to be filed each year 90 days after the end of the report year.

In February 2010, forms for report year 2009 were emailed to the appropriate agencies in 32 States. Completed forms were returned to the EIA for review, processing, and

compilation. A copy of the Form EIA-895 and instructions is available at:

http://www.eia.doe.gov/pub/oil_gas/natural_gas/survey_for_ms/eia895f.pdf

Production data for five of the major producing States (Louisiana, New Mexico, Oklahoma, Texas, and Wyoming) were obtained directly from State agencies and State-sponsored public record databases as part of the ongoing monthly EIA-914, "Monthly Natural Gas Production Report" data program. Production data for the Federal Gulf of Mexico region are provided by the U.S. Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE), formerly the Minerals Management Service.

Response Statistics

Of the 32 natural gas producing States, 31 participated in the EIA-895 voluntary survey by filing the completed form or by responding to telephone contacts. Data for Illinois, which did not respond, were estimated. As noted above, data for Louisiana, New Mexico, Oklahoma, Texas, and Wyoming were obtained from State agencies under the EIA-914 data program.

The commercial recovery of natural gas from shale formations contributes a significant amount to the production totals in a number of States. This edition of the NGA includes shale gas production data as a separate item for the first time (see Tables 1, 3, and applicable State Summary tables). Herein, shale production volumes are broken out separately for 2008 and 2009 but remain embedded in gas well volumes for prior years. Similarly, coalbed volumes, first broken out as a separate production category in the 2008 NGA, are included in gas well production totals for years prior to 2007.

Summary of EIA-895 Data Reporting Requirements

The Form EIA-895 is a two-page form divided into four parts. Part 1 requests identifying information including the name and location of the responding State agency and the name and telephone number of a contact person within the agency. Part 2 provides submission instructions; part 3 collects annual data on the production of natural gas including gross withdrawals from gas, oil, coalbed, and shale gas wells; volumes returned to formation for repressuring, pressure maintenance, and cycling; quantities vented and flared; quantities of nonhydrocarbon gases removed; quantities of fuel used on lease; and marketed production. Part 4 collects information on the quantity and value of marketed production (value based).

Routine Form EIA-895 Edit Checks

Each filing of the Form EIA-895 is manually checked for reasonableness and mathematical accuracy. Volumes are converted, as necessary, to a standard 14.73 pounds per square inch absolute pressure base. Value data are compared to the previous year's data for reasonableness.

When data on nonhydrocarbon gases removed, gas vented and flared, and gas used for repressuring are not reported for a State that historically reported one or more of these items, a volume is imputed. The imputation is based on the average ratio of gas volumes in the missing category to total gross withdrawals in States with values reporting gas in that category. This average ratio is applied to the volume of total gross withdrawals reported by the State to calculate the volume for the missing items. State agencies are contacted by telephone in order to correct errors. Amended filings or resubmissions are not a requirement, since participation in the survey is voluntary.

Comparison of the Form EIA-895 with Other Data Sources

Annual production data, as reported on Form EIA-895, are compared to other data sources to ensure accuracy and reasonableness. These sources include monthly production data from Form EIA-914, as well as third party data providers such as HPDI and BENTEK Energy, LLC. Any significant differences are resolved by contacting the reporting State.

Form EIA-910

Survey Design

The Form EIA-910, "Monthly Natural Gas Marketer Survey," collects information on natural gas sales from marketers in selected States (Florida, Georgia, Illinois, Maryland, Michigan, New Jersey, New York, Ohio, Pennsylvania, West Virginia, Virginia, and the District of Columbia) that have active customer choice programs. These States were selected based on the percentage of natural gas sold by marketers in the residential and commercial end-use sectors. The survey collects monthly price and volume data on natural gas sold by all marketers in the selected States. A natural gas marketer is a company that competes with other companies to sell natural gas, but relies on regulated local distribution companies to deliver the gas. The data collected on the Form EIA-910 are integrated with residential and commercial price data from the Form EIA-176 and Form EIA-857 for the States and sectors where the EIA-910 data are published. Currently those States are Florida, Georgia, Maryland, Michigan (commercial sector only), New Jersey (residential sector only), New York, Ohio, Pennsylvania, Virginia and the District of Columbia (commercial sector only).

Response Statistics

Response to the Form EIA-910 is mandatory and data are considered proprietary. Approximately 250 natural gas marketers report to the survey. Final monthly survey response rates are approximately 95 percent. Responses are filed with EIA in Washington, DC, on or before the 30th day after the end of the report month.

Routine Form EIA-910 Edit Checks

Each filing of the Form EIA-910 is manually checked for reasonableness and mathematical accuracy. State-level price and volume data are compared to data collected on the Form EIA-857 on a monthly basis and the Form EIA-176 on an annual basis. Residential and commercial volume data collected from marketers on the Form EIA-910 are expected to match residential and commercial transportation volume data collected monthly on the Form EIA-857 and annually on the Form EIA-176. When discrepancies are noted, respondents on one or all of the surveys are required to submit corrected reports.

Other Data Sources

Offshore Production

The EIA developed estimates of the quantity of natural gas production and the number of producing wells for the Federal Offshore Gulf of Mexico region from well-level data files provided by the BOEMRE, and predecessor agencies, for the years 2005 through 2009. The production data estimation methodology is described on the EIA website.

Marketed Production

Marketed production of natural gas is taken from responses to Part 4 of the Form EIA-895. It is the quantity of natural gas produced that is available for marketing, and is reported in Tables 3 and 6. It refers to quantities of gas available after processes related to production are complete. These processes are repressuring, pressure maintenance, cycling, venting and flaring, removing nonhydrocarbon gases, and using fuel on the lease.

Average wellhead prices are calculated from volumes and values reported in Part 4 of the Form EIA-895. These data are shown as "Reported Wellhead Value" in Table 6. The volumes in this section refer to the actual amounts of natural gas reported to the States as sold.

In the case when wellhead prices are not reported by the States, EIA may elect to impute an estimated price. The estimation procedure is used in States where specific criteria are met, namely production occurs in a location with easily accessible pipeline transportation systems connecting to nearby natural gas trading hubs. Under these criteria, EIA assumes that natural gas spot prices represent a reasonable estimate of natural gas wellhead prices. EIA uses the volumetric annual average of publicly available spot prices provided by the Intercontinental Exchange, which are converted to dollars-per-thousand cubic feet.

In many States, the marketed production volumes used in revenue calculations are larger than the reported wellhead value volumes. Differences in these volumes generally result from differences in definition and reporting requirements for separate data systems in the State. For

example, while production quantities of Federal, tribal, and State royalty gas are included in marketed production, some State reporting rules exclude these quantities from reported wellhead value volumes.

Natural Gas Processed and Extraction Loss

Extraction loss is the reduction in the volume of natural gas available for disposition resulting from the removal of natural gas liquid constituents at natural gas processing plants. It represents that portion of the "raw" gas stream transferred from the natural gas supply chain to the petroleum and natural gas liquids supply chain. Extraction loss does not include the reduction in volume resulting from the removal of nonhydrocarbon constituents or gas used as fuel, vented, flared, or otherwise disposed of within natural gas processing plants. Extraction loss also results in a reduction in the total heat (Btu) content of the natural gas stream equal to the heat content of the liquids extracted.

The Form EIA-64A, "Annual Report of the Origin of Natural Gas Liquids Production," collects data on the volume of natural gas received for processing, the total quantity of natural gas liquids produced, and the resulting shrinkage (defined as extraction loss in this report) from all natural gas processing- and cycling-plant operators. The quantity of natural gas received and liquids produced are reported by State of origin of the natural gas. Shrinkage volumes are calculated and reported by plant operators based upon the chemical composition of the liquids extracted using standard conversion factors specified in the form instructions. A description of the Form EIA-64A survey is presented in the EIA publication, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, Annual Reports*.

The heat (Btu) content of liquids extracted is not reported on the Form EIA-64A. Therefore, in order to estimate the extraction loss heat content, data reported on the Form EIA-816, "Monthly Natural Gas Liquids Report," were used to determine the individual products contained in the total liquids reported on Form EIA-64A. A description of the Form EIA-816 survey is presented in the EIA publication, *Petroleum Supply Annual, Volume II*.

To estimate the quantities of individual products extracted in each State, data from the Form EIA-64A survey were used to determine the total liquids production, and data from the Form EIA-816 survey were used to estimate the quantities of the individual products contained in those total liquids.

The Form EIA-816 captures information on the quantity of individual components (i.e., ethane, propane, normal butane, isobutane, and pentanes plus) produced or contained in mixes of plant liquids as determined by chemical analysis. The volumetric ratios of the individual components to the total liquids, as calculated from the 12 monthly Form EIA-816 reports for each State, were applied to the annual total liquids production, as reported on the

Form EIA-64A, to estimate the quantities of individual components removed at gas-processing plants.

The heat (Btu) content of extracted liquids was estimated by applying conversion factors to the estimated quantities of products extracted in each State. These conversion factors, in million Btu per barrel of liquid produced, were ethane, 3.082; propane, 3.836; normal butane, 4.326; isobutane, 3.974; and pentane plus, 4.620. It should be noted that, at the State level, extraction losses are not necessarily related to State production.

Imports and Exports

Volumes and prices of natural gas imports and exports were reported to the Office of Fossil Energy, U.S. Department of Energy, Natural Gas Imports and Exports. These data are nonproprietary and are filed annually by each individual or organization having authorization to import and export natural gas.

Lease and Plant Fuel

Lease and plant fuel represent those quantities of natural gas used in well, field, and/or lease operations (such as gas used in drilling operations, heaters, dehydrators, and field compressors) and as fuel in natural gas processing plants.

Lease fuel data were collected for report year 2009 on the Form EIA-895. Of the 32 States and the Federal Gulf of Mexico represented on the Form EIA-895, 20 States reported quantities of natural gas used as lease fuel. In the absence of reporting quantities on the Form EIA-895, the Form EIA-176 or an average of the state's historical ratio of lease fuel to gross withdrawals were used to estimate lease fuel quantities.

Although EIA recognizes that lease data collected on the Form EIA-176 do not constitute a census or result from a statistically selected sample, the data collected in the survey provide the best information available to the EIA for estimating such usage. To estimate lease use during 2009 (Table 15), several simplifying assumptions were made:

- The quantity of gas used for lease fuel was assumed to be a function of gross withdrawals of natural gas from gas, oil, coalbed, and shale wells.
- The average proportion of company-owned on-system production reported as used in lease operations by respondents to the Form EIA-176 was assumed to be typical of the average use by all operators as a proportion of gross withdrawals.

Form EIA-176 respondents reported volumes of company-owned onsystem production equivalent to 1.2 percent of 2009 total gross withdrawals reported on the EIA-895. The ratio of lease use to production in Alaska reported on the EIA-176 was exceptionally high and not used for determining the estimates. Submissions of Form EIA-895 from Alaska included a reported lease use volume. Lease

use reported by respondents on the EIA-176 in the remaining States averaged 4.3 percent of their reported production. The fuel-use estimates shown in Table 15 were calculated by applying the EIA-176 ratios to the gross withdrawals from the States not reporting lease use on the EIA-895, with the exception of Arkansas, Florida, and Oklahoma. Historically, the percentage of gross withdrawals used as lease fuel has been fundamentally different in these three States than the percentage reflected by the EIA-176 form. EIA felt these values would be better represented by taking a 5-year average of each State's percentage of gross withdrawals used as lease fuel. These percentages were then applied to each State's reported gross withdrawals to obtain an estimated lease fuel volume.

Plant fuel data are obtained from Form EIA-64A.

Electric Power Generation Data

The data reported for the electric power sector in the *Natural Gas Annual 2009* are derived entirely from data submitted on electricity data collection forms. These include Form EIA-860, "Annual Electric Generator Report," Form EIA-906, "Power Plant Report," Form EIA-920, "Combined Heat and Power Plant Report," FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants," and Form EIA-423, "Monthly Report of Costs and Quality of Fuels for Electric Plants Report." From 2007 forward, all data previously derived from Form EIA-906, Form EIA-920, FERC Form 423, and Form EIA-423 are now derived from Form EIA-923, "Power Plant Operations Report."

The electric power sector includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public. The change in reported volumes from "electric utilities" to "electric power sector" effected in the *Natural Gas Annual 2001*, was made in order to maintain consistency among EIA publications.

Natural Gas Consumed as a Vehicle Fuel

Volumes of natural gas consumed as vehicle fuel that are published in the *Natural Gas Annual 2009* for years 2005 to 2008 were estimated by EIA based on Form EIA-886, "Annual Survey of Alternative Fueled Vehicles." To estimate consumption for the year 2009, the 2008 volumes were multiplied by the following ratio: 2009 average daily consumption of vehicle fuel divided by the corresponding 2008 figure. The source of the average daily consumption figure in billions of cubic feet per day is the EIA *Short Term Energy Outlook* (STEO). Vehicle fuel prices continue to be calculated from data obtained from the Form EIA-176.

Coverage of Consumer Prices

Coverage for prices varies by consumer sector as discussed below. All average prices are computed by dividing the

reported revenue by its associated sales volume. Prices for deliveries of natural gas to residential, commercial and industrial consumers are calculated from reports to Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition," for most States and sectors.

Beginning with 2002 data in the States of Georgia, Maryland, New York, Ohio, and Pennsylvania, the residential and commercial sector prices reported include data on prices of gas sold to customers in those sectors by energy marketers. These latter data are collected on Form EIA-910, "Monthly Natural Gas Marketer Survey." Beginning in 2005, residential prices in Florida, New Jersey, Virginia and commercial prices in Florida, Michigan, Virginia and the District of Columbia also include sales by energy marketers that are collected on the Form EIA-910.

With the unbundling of services in the natural gas industry, pipeline and local distribution companies provide transportation service for end-user customers to whom they do not sell the gas. In this report, those volumes are described as deliveries of gas for the account of others.

When companies that deliver gas are the sellers of that gas, they are able to report the associated revenue to EIA. Those volumes are described as onsystem sales. When the firm that physically delivers gas to the end user acts as a transportation agent, it does not know the sales price of the gas. Respondents, therefore, do not report a revenue amount associated with deliveries for the account of others in their submissions of the Form EIA-176. Beginning in 2002 in the States of Georgia, Maryland, New York, Ohio and Pennsylvania, natural gas marketers who sell gas transported to residential and commercial customers by local distribution companies report the revenues from the sale of this gas to EIA on Form EIA-910, "Monthly Natural Gas Marketer Survey." Beginning in 2005, the same is true for Florida in the residential and commercial sector, Michigan in the commercial sector, New Jersey in the residential sector, Virginia in the residential and commercial sector and in the District of Columbia in the commercial sector. In these States, prices in the residential and commercial sectors are calculated by combining data from the Form EIA-176, Form EIA-857 and Form EIA-910.

Citygate prices are calculated from reports to the Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers." Both the Forms EIA-176 and EIA-857 are completed by companies that deliver natural gas to end-use consumers while the Form EIA-910 is completed by marketers or companies that sell but do not deliver natural gas to end-use consumers.

Citygate: Citygate prices represent the total cost paid by gas distribution companies for gas received at the point where the gas is physically transferred from a pipeline company or transmission system. This price is intended to reflect all charges for the acquisition, storage, and

transportation of gas as well as other charges associated with the LDCs obtaining the gas for sale to consumers.

Prices for gas delivered to the citygate represent all of the volumes of gas purchased by LDCs for subsequent sale and delivery to consumers in their service area. Since these prices are reported on a monthly form, the annual average citygate price is calculated by summing the monthly revenues reported and dividing that figure by the sum of the monthly reported volumes.

Residential: Prices in this publication for the residential sector cover nearly all of the volumes of gas delivered.

Commercial and Industrial: Prices for the commercial and industrial sectors are often associated with relatively small volumes of the total gas delivered. This occurs because they are reported by those that deliver gas and not by either the gas resellers or by the consumers. The delivery agent provides transportation service only and does not know the commodity cost of the gas it transports.

Natural gas prices reported for commercial and industrial consumers represent only those purchases from local distribution companies except for the States of Florida, Georgia, Maryland, Michigan, New York, Ohio, Pennsylvania, Virginia, and the District of Columbia where commercial prices include data from natural gas marketers who sell gas transported to end-use commercial customers by local distribution companies. With the above exception, natural gas prices for commercial and industrial customers exclude volumes transported, but not sold, by the local distribution company or pipeline company.

Electric Utilities: Prior to 2007, prices for natural gas were also reported to the EIA on the FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." Electric utility prices in this report are taken from this form. The respondents are regulated electric utilities that report receipts and prices of fuels and represent most of the volumes delivered to electric utilities. These prices are also published in several other EIA reports, i.e., *Electric Power Monthly*, *Electric Power Annual*, and *Cost and Quality of Fuels for Electric Plants*. From 2007 forward, these electric utility data are derived from Form EIA-923, "Power Plant Operations Report." Prices to electric utilities cover gas purchased by regulated electric generating plants whose total steam turbine electric generating capacity and/or combined-cycle (gas turbine with associated steam turbine) generating capacity is 50 or more megawatts. The *Natural Gas Annual* reports natural gas prices for electric utilities through 2001 and for the electric power sector thereafter.

Electric Power: From 2003 to 2006, prices for natural gas were supported by two separate surveys: FERC Form 423, which is completed by regulated utilities and Form EIA-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants Report," which is completed by

nonregulated power producers. The Form EIA-423 survey began in January 2002 and collects information from the nonutility portion of the electric power sector. Data in this report for 2003 forward cover the regulated (steam-electric and combined-cycle units) and unregulated (regardless of unit type) generating plants whose total facility fossil-fueled nameplate generating capacity is 50 megawatts or greater. Beginning in 2007, data previously collected on Form EIA-423 and FERC Form 423 are now collected on Form EIA-923, "Power Plant Operations Report."

Vehicle Fuel: Volumes of natural gas consumed as vehicle fuel that are published in the *Natural Gas Annual 2009* for years 2005 to 2009 were estimated by EIA based on Form EIA-886, "Annual Survey of Alternative Fueled Vehicles." To estimate consumption for a given year, the volumes from Form EIA-886 for the most recently available prior year were projected forward to the given year using the growth rates implied by the estimated daily consumption figures in the EIA *Short Term Energy Outlook* (STEO). Vehicle fuel prices continue to be calculated from data obtained from the Form EIA-176. Most of the natural gas delivered for vehicle fuel represents deliveries to refueling stations that are used primarily or exclusively by fleet vehicles. Thus, the prices are often those associated with the operation of fleet vehicles and may be based on internal transfer prices for companies primarily in the natural gas business. Because two different sources are used, with a different reporting population, coverage varies and leads to instances in which volumes, but no price data are available.

Natural Gas Balancing Item

The natural gas balancing item represents the difference between the sum of the components of natural gas supply and the sum of the components of natural gas disposition. It is calculated for each State as the result of a comparison between total reported supply and total reported disposition (Table 2). In the formula used, total reported supply is the sum of marketed production, net interstate movements, net movements across U.S. borders, and supplemental gaseous fuels supplies. Total reported disposition is the sum of extraction loss, net storage changes (net additions to storage), and consumption. When this calculation results in a negative quantity for the balancing item it represents an excess of reported supply in relation to reported disposition, and positive quantities indicate the opposite situation.

The differences between supply and demand represent quantities lost, the net result of gas company conversions of flow data metered at varying temperature and pressure conditions to a standard temperature and pressure base, metering inaccuracies, the effect of variations in company accounting and billing practices, differences between billing cycle and calendar-period time frames, and imbalances resulting from EIA's merger of data reporting systems, which vary in scope, format, definitions, and type of respondents. The balancing items in individual States may also reflect the underreporting on Form EIA-176 of gas transported across State borders for the account of others by some interstate pipelines.

Table A1. Natural Gas Unaccounted for by State, 2005-2009
(Million Cubic Feet)

	2005	2006	2007	2008	2009
Alabama	3,584	-4,288	2,611	3,736	4,071
Alaska	-1,500	4,842	-2,066	^R 11,001	6,904
Arizona	2,673	3,694	2,247	2,137	2,280
Arkansas	5,787	1,800	4,756	4,585	7,676
California	1,442	38,304	29,877	19,940	48,972
Colorado	3,092	16,070	1,158	6,334	9,213
Connecticut	3,756	6,299	7,989	8,717	29,127
Delaware	620	-596	454	853	594
District of Columbia	701	1,229	659	887	1,581
Florida	6,359	9,575	10,471	13,005	6,558
Georgia	-2,159	-1,866	-4,736	^R -1,752	-7,373
Hawaii	-187	-171	-167	-143	-161
Idaho	-2,056	627	183	-2,123	-613
Illinois	34,655	74,476	44,857	4,438	3,425
Indiana	-2,081	-18,406	-1,652	10,301	-339
Iowa	1,342	735	3,930	^R 1,962	546
Kansas	-4,708	-6,770	-1,259	-2,823	6,885
Kentucky	4,667	1,135	-10,243	4,901	4,308
Louisiana	5,576	-25,916	7,228	-22,729	15,115
Maine	646	411	-289	66	132
Maryland	3,803	4,005	4,001	5,398	5,070
Massachusetts	-5,434	4,316	1,344	^R 12,336	12,943
Michigan	21,965	-10,851	26,886	14,032	10,010
Minnesota	-1,822	-5,193	4,946	^R 6,748	3,207
Mississippi	5,149	2,806	-7,274	^R -1,405	-2,054
Missouri	6,921	4,549	22,329	18,051	9,647
Montana	1,051	-246	433	-487	-4,461
Nebraska	1,678	-1,586	-640	^R -6,884	446
Nevada	-2,601	-1,262	-1,183	-1,440	-2,019
New Hampshire	811	1,000	-610	^R 1,264	4,816
New Jersey	4,968	3,519	6,792	43	5,574
New Mexico	-1,366	612	6,748	972	-1,061
New York	11,793	-17,390	-547	4,997	-17,220
North Carolina	11,815	1,735	2,224	^R 9,323	10,706
North Dakota	-458	-460	-8,167	-209	-203
Ohio	14,968	-765	12,940	22,305	5,123
Oklahoma	13,798	6,920	16,586	-8,224	6,546
Oregon	-3,847	198	-697	-177	-724
Pennsylvania	28,814	20,503	24,242	^R 29,951	40,470
Rhode Island	374	-6,118	-6,620	^R 1,059	1,830
South Carolina	-88	-1,091	2,062	1,220	2,700
South Dakota	435	-124	308	61	-505
Tennessee	2,715	-1,280	4,941	^R -3,410	3,157
Texas	102,009	49,029	12,678	^R 7,041	31,728
Utah	-23,496	-31,912	15,557	9,040	16,013
Vermont	-464	9	-499	-461	-492
Virginia	4,106	3,670	7,540	-3,345	5,053
Washington	-5,056	343	1,210	1,762	-1,786
West Virginia	4,590	5,213	-1,445	1,226	2,321
Wisconsin	96	-1,823	924	509	252
Wyoming	39,537	38,252	51,762	-6,870	7,399
Total	298,974	167,764	294,780	^R 177,717	293,385

^R Revised data.

Note: Unaccounted for natural gas represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas disposition, as reported by survey respondents. These differences may be due to quantities lost or to the effects of differences in company accounting systems in

terms of scope and definition. A positive "unaccounted for" volume means that supply exceeds disposition by that amount. A negative "unaccounted for" volume means that supply is less than disposition.

Source: Energy Information Administration (EIA), Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition."